THE IR SPECTRUM

The Space Based Infrared Systems Newsletter

SBIRS•Complementary, Independent, Systems•Global Infrared Coverage

January 2006

IS Newcomer's Call

New to the Program Office?

Welcome to the Team!

Please join the IS Leadership

the 1st Friday of the month
(as schedule permits)

First call is tentatively scheduled
for February 9, at 4 p.m.
in the Deputy SPD's Office

No invitations are required

Beverages will be provided

Uniform of the Day

"Personal Focus and Attention"

For more information, contact Capt. Joe Frankino, IS Executive Officer, at 363-0864

What's Inside

Certification results announced

The Space Based Infrared Systems recertification results were announced December 13. Mr. Kenneth Krieg, the Under Secretary of Defense for Acquisition, Technology and Logistics, recertified and restructured the program.

As part of the recertification process, Nunn-McCurdy law requires USD (AT&L) to certify to Congress the SBIRS program requirements are essential to national security; there are no lower-cost alternatives; the cost estimates are sufficient; and adequate management controls are in place.

The restructured SBIRS program now includes the procurement of one geosynchronous earth orbit (GEO) satellite following completion of the development program consisting of two development satellites under contract. The original program included the procurement of three GEO satellites following the two GEO satellites in the development phase. Because of the restructure and given the continued importance of supporting the strategic and theater missile warning and missile defense missions, a competitive program will be developed to take advantage of newer, and proven technologies.

The Alternative Infrared Satellite System (AIRSS) is intended as a parallel program to GEO 3. The intent of the AIRSS program is to reduce the cost of performing missile warning and missile defense missions. The decision to produce GEO 3 is dependant on success of GEO 1 and GEO 2.

The AIRSS Program is managed by the Developmental Planning Directorate of SMC. The decision to proceed with an AIRSS development program or for SBIRS to exercise production of GEO 3 is expected to be made in FY08. It is expected that the alternate program satellites would integrate with the existing SBIRS ground segment. The program milestones will be determined during the alternate studies. (Courtesy information)

SBIRS Team achieves milestone

The Space-Based Infrared System (SBIRS) team led by Lockheed Martin has successfully completed engineering thermal vacuum testing of the payload for the first geosynchronous orbit (GEO) satellite.

Payloads for SBIRS GEO satellites are produced by Northrop Grumman and consist of two advanced sensors: a scanning sensor designed for continuous observation and surveillance of traditional intercontinental ballistic missile threats, and a staring sensor designed to detect very low signature, short-burn-duration theatre missiles.

The successful test validated the payload functionality and performance in a vacuum environment, where the payload was stressed at temperature extremes greater than those expected during on-orbit operations. The baseline ambient functional tests as well as radiometric tests were repeated in this "test-it-like-it-flies" environment with the infrared sensors at their cryogenic operating temperatures.

Cleared for Public Release

"Successful completion of this critical test phase is an important achievement and gives us high confidence that the payload will meet all performance requirements," said Mark Crowley, Lockheed Martin's SBIRS vice president. "Our team is focused on ensuring SBIRS is deployed quickly and successfully and this milestone is another major step in our march to the launch pad."

A key aspect of the test was the successful input of simulated infrared targets against earth disk background scenes that resulted in the correct data stream from the payload downlink interfaces.

"The scanning and staring sensors performed well under simulated space operating conditions," said Sal Romano, vice president of the SBIRS Program at Northrop Grumman's Electronic Systems Sector. "Their detection and surveillance capabilities will be key assets for SBIRS operation."

(Article courtesy of Lockheed Martin)

Standing Proud: *IS members recently participated in the retreat ceremony held December 9, at the Fort Mac Patton Quadrangle. The next retreat ceremony is February 10, at Fort Mac. For more information, call 363-5681. (Photo by Capt. Howard Tang)*

STSS achieves ORD success

By Capt. William Leach and Maj. Ken Bowling

ISM

The Space Tracking & Surveillance System (STSS) research and development program completed a successful ground system milestone last quarter with the completion of the first of two Operational Readiness Demonstrations called "ORD 1."

STSS, an Air Force managed, Missile Defense Agency funded, program is capable of tracking threat missile from launch through the mid-course phase of flight. This mid-course tracking capability is STSS's primary force enabling technology and the most technically challenging part of tracking threat missiles.

The ORD 1 milestone is part of an ongoing string of successes for the STSS ground segment and their prime contractor. This successful demonstration proved the ground segment's ability to successfully operate the STSS satellite on-orbit while conducting satellite telemetry, tracking and control, sending mission performance commands and processing (simulated) mission data. The "day in the life" scenario included activities for two consecutives days for nominal on-orbit operations.

In an associated success, the ground segment team received the "go-ahead" certification for the STSS program to establish connectivity to the Air Force Satellite Control Network (AFSCN) and "drive" AFSCN's antennae.

AFSCN is a worldwide integrated network of remote tracking station antennae and associated processing stations, which allows numerous on-orbit satellite systems, including the STSS satellites, to downlink their onboard data and to upload or "talk to" and command the satellites.

With this connectivity, the STSS program will be able to launch, deploy, test and secure their satellites. Two realistic satellite contacts were performed with a Remote Tracking Station of the AFSCN named "PIKE," where commands were sent and received without discrepancy.

The STSS program will demonstrate further ground segment capability with the completion of its second Operational Readiness Demonstration currently scheduled for early 2007. ORD 2 will complete the ground segment portion of the Block 06 STSS program. In mid-2007 the STSS program will conduct a tandem launch (two satellites on a single booster) of its Block 06, two satellite constellation.

Cleared for Public Release

Awards

Congratulations to the SBIRS Quarterly and Annual Award winners listed below.

Quarterly Award Winners

October-December 2005

Junior CGO
Capt. Henry Jones

Senior CGO
Capt. Howard Tang

NCO
Tech. Sgt. William Cleere

Aerospace
Ms. Anh Cecil

Contractor
Ms.Shelley Wells

Mission Team
SBIRS Risk Management

Support Team
DOCS Open to Livelink Migration

Annual Award Winners

January-December 2005

Admin Support Civilian
Ms. Judy Bantz

Junior-Level Civilian
Ms. Janice McFarland

Mid-Level Civilian
Ms. Joanna Patterson

Junior CGO
1st Lt. Jonathan McCall

Senior CGO
Capt. Bradley Walker

Senior NCO
Master Sgt. Karla Wiersma

NCO
Tech. Sgt. William Cleere

Aerospace
Ms. Mary Joan Trafton

Contractor
Mr. Gary Moore

Team
STSS Block 2003 Software Development

SAMS Announcements

The IS move to SAMS is scheduled for March 3-5 (Phase 7 & 8). Much of IS will be located in Building 271 and Building 270. The new mailing address will be announced in February. Move packets will be distributed with more information. If you have any questions about the move, please contact your three-letter's SAMS coordinator for updated information.

People are encouraged to join van and carpools due to the lack of parking available in SAMS. To assist in the transition, ISX and ISC have created a Rideshare Information Center on the IS Intranet. On this site you will find transportation links, vanpool lists, and carpool permit applications. Carpool policies are expected to become more restrictive in Area B, so do not delay in joining. Additional carpool parking slots expected in the spring. Parking slots will remain available in Area A until April 10.

For more information or to offer suggestions on how to improve the Rideshare Information Center site, please visit *https://is-intranet.losangeles.afspc.ds.af.mil/intranet/rideshare/fs/rideshare.html* or call the SBIRS Rideshare Coordinator Mr. John Barnhill, ISX, at 363-0076.

A transportation incentive of $105 is available to government rideshare members who participate in rideshare commuting three or more times per week. Participants must complete a Form 2845 and submit to the rideshare coordinator. Transportation incentive checks will be distributed quarterly. For more information, visit the IS intranet rideshare site or call Mr. John Barnhill, ISX.

Badges must be worn at all times inside the SAMS buildings. The SAMS buildings are considered controlled access facilities. Once **outside** these buildings, you must put your badge away. Visitor control will be located on the first floor of Building 271. Card readers and camera coverage will be in use at each entry and exit.

Los Angeles AFB now has two DSN lines. Please note phone numbers that have 653 as a Prefix (e.g. 653-XXXX) are assigned DSN number 633. Phone numbers that have the Prefix 363 (e.g. 363-XXXX) will still keep DSN 833 assigned to them. People will need to dial seven digits while on base and 10-digits when dialing off-base (including across the street).

New IS phone numbers will not be assigned until the Program Office's move is completed in March. Once you receive your new phone number you are encouraged to call your old voicemail and leave a message directing incoming callers to your new number. Government phones will be transported by the movers.

Any Questions?: *Capt. Steve Roycroft, ISI, recently volunteered to speak at an El Segundo Rotary meeting and luncheon. Capt. Roycroft helped community members understand the roles and responsibilities of SMC and its individual program offices. If you would like to volunteer, please call SBIRS External Affairs at 363-2022 for a list of available opportunities. (Courtesy photo)*

Planning to take a refrigerator, microwave, or coffee pot to SAMS? You must obtain approval by completing an AF Form 332. You will need to develop cleaning procedures and submit the documentation to Mr. Vada Barnett, ISX. Once approved, the AF Form 332 and the cleaning procedures will need to be posted next to the item you have registered. For more information, call Mr. Barnett at 363-0264.

IS SAMS Coordinators

ISA - Capt. Kenneth Anderson, 363-3535
ISM - Angela Blankenship, 363-3187
ISX - Lina Litonjua, 363-2774
ISI - Margie Lovett-Sibetta, 363-1177
ISG - Janice McFarland, 363-5841
ISX - Faye McTyer, 363-3406
ISPP - Victoria Samuels, 363-3845
ISK - Lt. Col. Darwin Kibby, 363-3752
ISCI - Elizabeth Meyn, 363-6081
ISD - Jennifer Johnstone, 363-3485
Aerospace - Rita Rios, 336-6281

The IR Spectrum

Space Based Infrared Systems Program Office

Editorial Staff

Los Angeles Air Force Base Air Force Space Command

Col. Randall Weidenheimer ...IS Program Director
Ms. Stacee McCausland .....Editor

The content of this newsletter is prepared and provided by the Spaced Based Infrared Program Office. ***The IR Spectrum's*** content is not necessarily the official view of, or endorsed by the U.S. Government, Department of Defense or the Dept. of the Air Force.

Seeking Newsletter Submissions

Articles, photos, announcements

IS Newsletter Deadline: April 14

For more information, call 363-2022.

~Announcements~

Col. Jon Wright, Acting Deputy System Program Director, was chosen as the new DCMA Commander in Sunnyvale. His departure date has not been determined.

Congratulations to Captain Lindsay Keough for her selection as the nominee from IS and as one of the alternates from SMC to participate in the Air Combat Command Sword Look 06-A Program, February 7-9 at Langley AFB, VA. Capt. Gary Frisard, SMC/SN is the primary selectee.

Congratulations to the newest IS Captain Selects: Ashraf Abusamak, ISI; Terrence Bailey, ISP, (PCS'd); Herman Brandon III, ISA; Rebbecca Drydol-Brandon, ISK; Jimmie Rivera, ISG; Robi Wainwright, ISD; and Daniel Wilborn, ISP.

SMC Mission Brief for newly assigned personnel is February 15, 8 a.m. to 2:30 p.m., at Area A, Bldg 120, Daedalian Room. Personnel new to SMC are required to attend this briefing, which is held quarterly. Attendees will gain an overview and basic understanding of SMC.

Additionally, there is an optional tour of Aerospace and Northrop-Grumman Space Technology scheduled for February 16, 9:15 a.m. to 3:30 p.m. Uniform of the day for military and business casual for civilians and contractors. To sign-up contact Mr. John Barnhill, ISX, at 363-0076.

The SMC Annual Awards Banquet "Walk of Fame 2005" is February 24, 6 p.m., at the Proud Bird. Tickets are now available. Cost is $25-$45 according to rank/grade. For more information, contact Capt. Steve Roycroft, ISI, at 363-3701.

The 2006 SMC Dining Out Team is looking for volunteers to assist in all phases of planning and execution of this years' grand SMC event! To volunteer, please call Maj. Mike Lezaun at 363-0777 or Capt. Heather Bogstie at 363-5684.

DSP Flight 23 patches are now available for $5. If you would like a patch with velcro the cost is $6. For more information, please call Lt. Marie Juan at 363-1688 or Lt. Jon McCall at 363-3574. DSP-23 is expected to launch in the last quarter of 2006.

Have security questions? Please contact the ISC Security Staff, Office Security Managers, or visit the IS security Intranet site at https://is-intranet.losangeles.afspc.ds.af.mil/intranet/security/fs/iscs.html

The ISC Security Staff
Mr. Vernon Utley, 363-0395
Mr. Gerald Jones, 363-0271
Mr. Robert "Buck" Buchholz, 363-0884
Mr. Leroy Sui, 363-2982
Mr. Alan Hall, 363-2967
Ms. Darlene Muckelroy, 363-6658

Primary OSM's
Mr. James Younger, ISX, 363-3274
1st Lt. Jon McCall, ISD, 363-3574
1st Lt. Levis Caycedo, ISG, 363-1894
Capt. Steve Hermack, ISS, 363-5589
Mr. Alan Hall, ISC, 363-2967
Ms. Davie Ly, ISK, 363-5819
Capt. Paul Tamashiro, ISP, 363-6529
Capt. Donita Ruehs, ISI, 363-6730
1st Lt. Nathan Seidule, ISA, 363-0020

Alternate OSM's
Ms. Faye McTyer, ISX, 363-3406
2nd Lt. Candace Kimble, ISD, 363-3367
2nd Lt. Rupinder Sekhon, ISG, 363-0875
1st Lt. Andrew Nemeth, ISS, 363-5637
Mr. Leroy Sui, ISC, 363-2982
1st Lt. Rebbecca Drydol-Brandon, ISK, 363-1070
1st Lt. Lisa Perry, ISP, 363-5135
2nd Lt. Joe Shahmirzhadi, ISI, 363-2643
Capt. Ken Anderson, ISA, 363-3535

~Baby News~

Congratulations!

Parents: 1st Lt. Andrew and Kassi Nemeth
Baby: Joshua David
Born: January 18, 2006
Weight: 7 pounds, 12 ounces
Length: 19.5 inches
Joshua joins his two sisters Alexa Georgia-Marie, 8 yrs, and Kathryn Ruth, 3 yrs, at home.

Attention new parents: If you would like to include your baby's picture and birth announcement in the next IR Spectrum newsletter, please call 363-2022.

Mr. Joshua David Nemeth

Cleared for Public Release

Visit Ohio, see historic astronomy sites

Col. William Possel

ISO

(Editor's note: One IS member recently took a scientific trip down memory lane and visited several historic astronomy sites in Ohio.)

When you think of famous astronomical places, Ohio probably isn't very high on your list. Yet, there are a few lesser known, but quite interesting sites in the Buckeye State that have made significant contributions to the science. One is the home of the late Leslie Peltier, author of *Starlight Nights: The Adventures of a Star-Gazer*, and the other is the Cincinnati Observatory.

Delphos, Ohio is a small, rural town on the northwestern side of the state, about 20 miles from Lima. I have read Peltier's book, *Starlight Nights*, several times and was fascinated by his experiences. David Levy describes the book as "Many books explain *how* to observe the sky; *Starlight Nights* explains *why*. I have not encountered a single work that comes close to capturing the passion of skywatching."

Peltier lived in Delphos his entire life, from 1900 to 1980. There he made 132,000 variable star observations and discovered 12 comets and 6 nova, most of them with a 6" telescope.

My Mom lives in Lima (and bought me the book several years ago), so it was an easy to convince her to make the field trip with me. The town has changed very little from when Peltier was alive, but much of the surrounding farm land is now housing developments.

The Delphos Library was well prepared for tourists and had a thick binder of newspaper and magazine articles about Peltier. In front of the library are two markers: one from the Ohio Historical Society and the other from the American Association of Variable Star Observers.

One thing that struck me was how famous Leslie was in astronomical circles, but locally an unknown. Astronomers such as Walter Scott Houston, David Levy and Harlow Shapley came to see him. It wasn't until late in his life that the town realized they had a famous amateur astronomer in their midst.

His home is on the edge of town and his wife, now 95 years old, still lives there. Unfortunately, his observatory deteriorated over the years and was taken down.

Historical markers in Delphos, Ohio, are displayed at the home of one of the most famous amateur astronomers in the twentieth century (Photos by Col. William Possel)

The next stop was my annual pilgrimage to the Cincinnati Observatory. This was my fifth visit, but as always, I learned something new. The observatory is located on top of a hill in an older part of town called Mt. Lookout. I attended one of their public nights, but the weather didn't cooperate. So instead we had a wonderful lecture and tour from the staff.

The observatory was founded by Ormsby McKnight Mitchel (who later discovered the "Mountains of Mitchel" on Mars) in 1842. He was a professor and generated local interest in astronomy through a series of lectures. The Cincinnati Astronomical Society (CAS) was formed by Mitchel and 300 "shareholders" who helped fund the new telescope.

Mitchel had the observatory building constructed and bought a 12 inch objective lens from the famous physicist, Fraunhofer of Munich. It was originally intended to be for another telescope at the Czar's observatory in Pulkova, Russia. However, when Fraunhofer died before the lens was finished, the Czar was no longer interested in having it. Mitchel heard about the lens and worked a deal with Fraunhofer's company to purchase it. This lens was later reconfigured to 11 inches and the refractor's tube shortened. The telescope was built by *Merz und Mahler* and is the oldest telescope still in use in the U.S.

One historic tidbit is that the scope made one of the observations which confirmed the discovery of Neptune. The story is that Mitchel's wife made the observation and the report was telegraphed to the Berlin Observatory. The 160 plus year old telescope tube is still the original ash wood, veneered with mahogany, and in excellent condition. Instead of baffles, the wood tube tapers from 11 inches at the upper end to a couple inches at the eyepiece.

In 1904 another observatory building was added and the new owners, the University of Cincinnati, purchased a 16 inch Alvin Clark & Sons. During the 1900's both telescopes were active in minor planet research and public education.

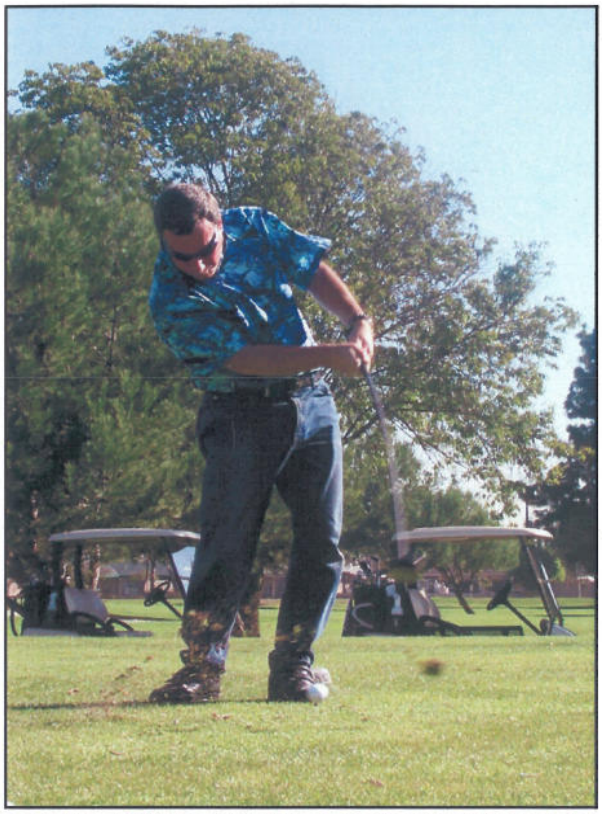
Today the Cincinnati Observatory Center, a partnership between the university, the observatory's neighborhood residents, and the local amateur astronomers, manages the buildings and grounds. These magnificent telescopes are still active today with classes for local K-12 schools and amateurs giving public viewing sessions.

Also, the Friends of the Observatory and the Cincinnati Astronomical Society are working to develop techniques to use the scopes for variable star measurements and extrasolar planet search. The University of Cincinnati continues to fund the observatory, but the center hopes to run operations independently within the next five years.

The local community and the amateurs seemed determined to keep this going and I believe the "O" will continue to inspire future astronomers for years to come. If you're in the area, make sure you visit it. For more information visit their Web site at *www.cincinnatiobservatory.org*.

7th Annual IS Golf Tournament

The 7th Annual IS Golf Tournament was held November 17 at the Los Alamitos Navy Golf Course located in Cypress, Calif. The tournament was open to active and retired military members, government civilians, and contractors. Lunch, awards and numerous prizes were given out.



Mr. Bruce Arnheim, ISI, takes a ground-breaking shot and hits the ball down the fairway.

Scoring first place, Maj. Dwayne Chatman, ISP; Mr. Dave Mareno, ISM; Mr. Dave Block,ISK; and Lt. Col. Kibby, ISK, won the 7th Annual IS Golf Tournament.

Capt. Kyle McAtee, ISA, witnesses a challenging shot from the rough by now retired Maj. John Carroll, formerly ISS.

An ISM team hits the beach and takes a break in one of the nearby sand traps.

(Photos by Ms. Stacee McCausland)

Cleared for Public Release

IS Team enjoys holiday season

The IS Holiday Party was held December 15 at the Proud Bird. Co-workers, friends, and family spent a few hours together dining, listening to music, and playing games such as "scavenger hunt" and "build your own satellite."

(Hank, the Angry Elf) Lt. Col. Tony Cruciani, ISD, (Rudolph) Col. Randy Weidenheimer, IS, and (Santa Claus) Lt. Col. Joe Coniglio, ISD, kick-off the holiday celebration by assuming special identities.

Lt. Col. Errol Lewis, ISI, gleefully expresses his joy as he enters into the party games.

(Above) Lt. Col. Michael Miller, ISG, shows off his prize-winning satellite.

Ms. Van Choat, ISK, shows what's in her wallet.

Cleared for Public Release

(Photos by Capt. Howard Tang)

See Holiday, page 8

Holiday continued from, page 7

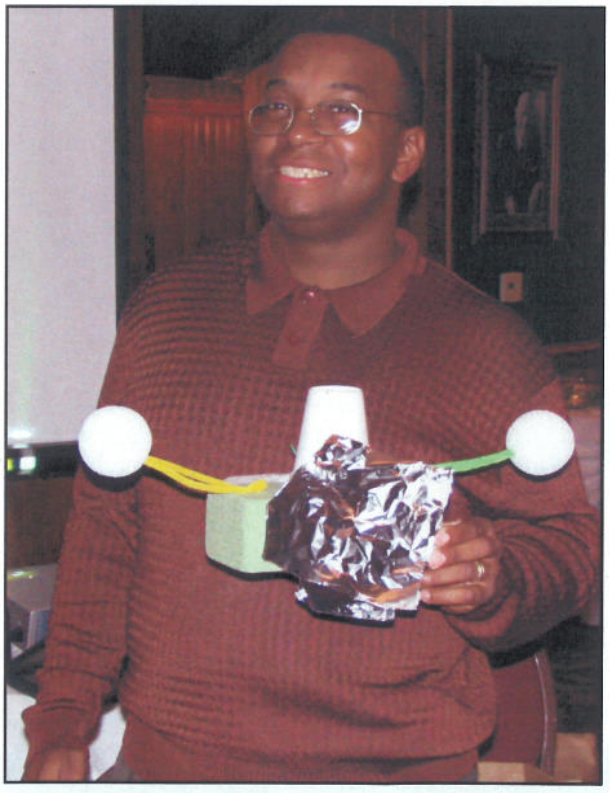
The Curtis family, ISI, enjoy the IS holiday party together at the Proud Bird.

(Above) 1st Lt. Brett Cooper, ISI, and 1st Lt. Karena Holt, ISI, work together to make the holiday party a success.

Cleared for Public Release

(Photos by Capt. Howard Tang)

(Above) Ms. Sharon Hoting, ISG, discusses her prize options with the holiday host 1st Lt. James Manna, ISG.



Lt. Col. Barron Canty, ISI, proudly displays his honorable attempt at satellite assembly.